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AUTHOR Susman, Elizabeth J.; And Others
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ABSTRACT

The analysis reported here examined the progress of observational child study from 1960 through 1975. Naturalistic observational studies were described as heuristic, highly realistic, relevant to important social problems and oriented toward significant theoretical issues. Fifteen journals encompassing child development, clinical and educational areas of research were reviewed to determine trends in naturalistic observation of children without observer manipulation. Each of the 126 studies analyzed was coded on a variety of dimensions. Among the conclusions reached were that (1) the children observed were primarily 3- to 5-year-old, middle class children in nursery school settings interacting with the environment, other children or teachers; (2) the reciprocal nature of human interaction was infrequently considered; (3) peer interaction was the most popular behavior observed; and (4) reporting reliability or more stringent assessments of reliability did not improve over the 16-year period. It was observed that naturalistic observational child study has been underutilized for examining developmental processes, and that diversity in the ages, populations and settings in which children are observed is needed to expand the generalizability of naturalistic findings. (Author/MS)

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Observational Child Study: An Empirical Analysis Of Recent Trends and Directions

Elizabeth J. Susman, Donald L. Peters

and

Robert B. Stewart

The Pennsylvania State University

Naturalistic observational methodology has traditionally played an important role in child development although it has not been the preferred methodology in recent decades. The purpose of this study was to determine the frequency of studies which utilized naturalistic observation and to determine the trends in this methodology during the last 16 years. Fifteen journals encompassing child development, clinical and educational areas of research were reviewed. The analysis included only those studies in which children from 2 to 10 years were observed and no experimental manipulations were introduced by the researcher. One hundred twenty six investigations in the sixteen year period fulfilled the criteria for naturalistic observational studies. The children observed were primarily three to five year old, middle class children in nursery school settings interacting with the environment, other children, or teachers. The reciprocal nature of human interaction was infrequently considered. Peer interaction was the most popular behavior observed. Reporting reliability or more stringent assessments of reliability did not improve over the sixteen year period. Naturalistic observational child study has been a much underutilized technique for examining developmental processes compared to the theory-based laboratory approach. Diversity in the ages, populations, and settings, in which children are observed is needed to expand the generalizability of naturalistic findings. The advantages of knowledge

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generated from naturalistic observation are discussed in relation to their ecologically valid and enduring heuristic quality.

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The choice of methods within a scientific investigation is dependent upon the specific questions or class of questions one desires to answer. What questions are relevant at a particular moment depends, on the one hand, upon the state of theory and knowledge, and on the other, upon the political and academic zeitgeist. Yet, within a field of study there are both preferred methods that are used and preferred classes of questions that are addressed. Within child development there is a minority opinion that is heard from time to time. This is one more such occasion.

This paper and this symposium were designed to once again stress the importance of naturalistic observational methodology to our understanding of child development. The analysis reported here was conducted to bring us up to date--to examine if you will--the progress of observational child study during the sixteen year period from Wright's (1960) analysis through the end of 1975.

Historical Perspective

We feel it is important to view the present effort within the context of a long standing tradition. For example, in the first edition of Child Development Monographs, Thomas and Associates (1929) described the various methodologies available for objectively studying the child's reaction to the multiplicity of stimuli in the environment. The focus of the report was gaining objectivity of measurement through standardization and control of the instrument--the

observer--while gathering data about natural behavior in natural settings. Thomas et al., desired to move away from the complicated deductive methodology prevalent at the time and towards a purely empiricist approach in the descriptive study of child behavior.

Later, Arrington (1943) was to advocate the use of observational methods in considering research problems of social development, interpersonal relations and the etiology of social behavior. She was particularly concerned with methods where "the method of recording, and the manner of selecting the behavior are subject to control rather than the situation in which the observations are made." She therefore restricted her review to "studies involving scientific observation of social behavior under conditions conducive to natural social interaction and undertaken with a view to generalization concerning some aspect of normal behavior of individuals or groups or to the development of methods which would ultimately contribute to such generalizations". Arrington's review affirmed the value of naturalistic observation in both describing normative patterns of behavior and in cross-validating other forms of measurement. She indicated the particular value of observation for longitudinal studies of the etiology of stable behavior patterns.

In 1955, Gilbert observed that the range of situations and subjects that had been subjected to systematic observation was very limited. The studies reviewed were found to have concentrated on preschool age children in nursery schools who were above average in intelligence, from high socioeconomic strata, and of Judeo-Christian cultural and ethnic background.

In 1960 Wright noted that since 1890 only 8% of the empirical studies met the criteria for observational child study and concluded that psychology has done very little watching, recording, and examining of events in natural settings.

Most recently, Bronfenbrenner (1974) has condemned American developmental psychology as, "the science of the behavior of children in strange situations with strange adults." He called for more ecologically valid research on children in their natural context.

We are simply carrying on the tradition.

One can argue that the discovery and demonstration of such general relationships in the area of child development requires the following:

1) a concern for multiple, interrelated developmental processes, their etiology and their course. This implies a temporal dimension and sequencing as well.

2) a focus upon the interactions the child has with his physical and social environment, that is, how the child acts upon and changes his environment while he is, in turn, acted upon and changed by it.

3) the investigation of the generalizability of behavior across the many settings a child finds himself in the course of daily life.

and 4) the investigation of the generalizability of findings across different children and groups of children, that is, across sex, SES, age, ethnic background and the like.

The use of naturalistic-observational methods seems particularly well suited for the establishment of such general relationships. Naturalistic observational studies have the advantage of being heuristic, highly realistic, relevant to important social problems, and oriented toward significant theoretical issues (Brandt, 1972). Yet, we wondered what progress has been made. We asked such questions as:

Has the value of naturalistic study been recognized?

Is the number of such studies increasing?

Are investigators studying child development and behavior in the child's enduring context?

Have the pleas been heard for more diversity in the situations observed?

Are different children being observed?

Is the interactive nature of encounters with the environment being recognized?

Are the methods employed becoming more sophisticated?

Method

Fifteen journals encompassing child development, clinical, and educational areas of research were reviewed to determine trends in naturalistic observational child study during the last 16 years. We included only those studies in which children from 2 to 10 years were observed and no experimental manipulations were introduced by the researcher. Each was coded on a variety of dimensions:

--frequency by year and journal

--age of subjects

--socioeconomic status

--observational setting (nursery school, home, clinic, etc.)

--social environment of subjects (individual, dyad, triad or group)

--observational focus (parent-child, teacher-child, child-child, etc.)

--content variables (peer interaction, sex role development, etc.)

--linear-reciprocal orientation

--observational technique

--type of reliability reported

Results

Number of articles by year. (Slide 1) One hundred-twenty-six investigations in the sixteen year period fulfilled our criteria for naturalistic observa-

tional studies. The distribution of articles by year was basically tri-modal with the greatest number of studies in 1962, 1968, and 1975. These frequencies were standardized to account for the number of journals published in a given year. There was a significantly greater number of naturalistic studies conducted during the early seventies (1972-75) than during the middle sixties (1964-67) $t(6) = 2.65$, $p < .05$. Generally, there was an upward trend in the seventies although this is based on fairly small numbers.

Three of the 15 journals surveyed; Developmental Psychology, Child Development, and Journal of Genetic Psychology contributed 21%, 16%, and 10% respectively, or a total of 47% of the naturalistic studies.

Age. (Slide 2) Three, four, and five year-olds were the most frequently observed children. Forty-eight percent of the studies, compared to 50% in Wright's (1960) survey, observed preschool children.

Socioeconomic status. (Slide 3) Over one-half (53%) of the studies surveyed failed to report the socioeconomic status of the subjects. The most frequently reported subject population was, not surprisingly, middle class (20%) followed by lower (4%) and upper class (1%). The 20% is undoubtedly an underestimate since many of the studies that failed to report socioeconomic status were conducted in university and community nursery schools which tend to be populated with middle-class children.

Observational setting. (Slide 4) The observational setting was frequently a nursery-school where children spend two-to-three hours, one-to-five days a week. A total of 57% of the studies were carried out in nursery schools, headstart programs, laboratories or clinics where children spend less than one-fifth of their day. Few studies (11%) compared behavior patterns across two or more observational settings.

Social environment. (Slide 5) The social environment was usually a group

setting with the individual as the focus of observation. Individuals in dyads or triads were infrequently observed.

Linear-reciprocal orientation. The majority of studies (74%) considered the child's behavior the dependent variable while few (17%) considered child behaviors both as independent and dependent variables. Even in the latter case the individuals in the two-person model were treated separately. That is, the reciprocal nature of human interactions was mostly neglected.

Observational focus. (Slide 6) Child-child and environment-child (e.g. a child's use of space) interactions were the most common observational focus. The category other adult-child was primarily composed of teacher child interactions but was coded as other-adult if the adult was not explicitly stated to be the teacher. Parent-child studies remained minimal in number. The seventies (1971-1975) showed an increase in father-child studies bringing the number to nearly equal mother-child studies during the seventies. Figure 1 shows the trend in observational foci during the sixteen year period.

Content variables. Figure 2 shows the limited range of behavioral phenomena observed in naturalistic settings. A rank-order of these behaviors shows that peer interaction was by far the most commonly observed phenomenon. This was followed by attachment and dependency, aggression, physical and behavior disorders, and sex-typing.

Observational technique. There was a significant shift ($\chi^2 = 26.69$, $p < .005$) in the observational techniques used during the 16 year period. Specifically, relative to the total number of studies in each quartile [early sixties (1960-1963), middle sixties (1964-1967), late sixties (1968-1971) and seventies (1972-1975)] the number of studies incorporating rating scales decreased and the number of studies using narratives increased slightly. This trend reflects the decrease in number of studies on aggression and dependency which frequently used rating scales, and the increase in the use of narratives in naturalistic

observation of language acquisition. Language is one of the most observable cognitive functions. Category systems were the most frequently used technique for recording behavior throughout the sixteen-year period.

Reliability. Thirty-two percent of the studies failed to report any form of reliability estimate. For those studies where reliability estimates were reported, percent of agreement between observers was the most popular method of estimation (61%). Accuracy against a standard (8%) and stability coefficients (10%) were infrequently reported. There was no increase in reporting reliability estimates over the 16 years, nor was there an increase in the use of more stringent or more sophisticated assessments of reliability or accuracy. In light of recent empirical findings that agreement among observers is subject to decay over the observational period (Mash & McElwee, 1974; Taplin & Reid, 1973), one might expect that during the seventies there would be a decrease in the reliance upon single pre-study estimates of agreement. The data do not support this contention.

Discussion

Overall, the frequency of investigations free of experimenter-intervention continues to be minute compared to the voluminous quantity of studies using other methodologies. The frequency decreased even more in the middle sixties. This was probably reflective of the change of focus in child psychology toward cognitive developmental issues. The middle sixties were the "Great Society" years and remediation programs were started to equalize disparities in intellectual functioning. Evaluation of changes in cognitive functions seemed to require laboratory experiments and other more structured forms of measurement. The upward trend in naturalistic observational research in the seventies supports our contention that the zeitgeist among some researchers is congruent with an ecological concern for real life problems in the enduring environment, and a

change in focus from cognitive to social behavior.

Throughout the sixteen year period naturalistic observation has been restricted to a narrow range of settings, ages, socioeconomic classes, content variables, and persons observed. Previous pleas for diversity have not been heeded. Middle-class children with high I.Q. continue to be observed in nursery schools. Such observations are easy to obtain, and they are useful for some purposes. They do not, however, increase markedly the generalizability of our knowledge. Furthermore, it is questionable whether the "natural behavior" is the equivalent of "spontaneous behavior". Any school behavior is a function of the structure the teacher builds into the classroom environment to accomplish program goals. Even "free-play" is carefully supervised by adults and guided by the materials made available to the children. Hence, we know little about the spontaneous behavior of children in less structured situations.

Our analysis indicates that the child behavior being studied in school and home settings has been characteristic of only one level of the child's enduring environment (Bronfenbrenner, 1974). Behavior was rarely systematically observed in larger supporting social structures such as community parks and shops. These settings are where children learn how and with whom to engage in socially appropriate behavior for successful functioning in a complex technological society. Behavioral stability within or between the two levels of the ecology of the child has been even less frequently observed.

Over the years observational child study has produced valuable information about the development of peer relationships. However, we know more about a young child's interactions with strange adults and other unrelated children than we know about his interactions with his parents and siblings. Even in instances where parent-child interactions were observed the focus was usually on the child and either the father or mother separately rather than on the

family unit. The increase in father-child studies seems to indicate a voguish reverse bias from an earlier emphasis on mother-child interactions. While this may fill some needed gaps in our knowledge, one can wonder if a greater contribution could be made by a more holistic analysis of the family unit.

In the two-person models of psychological research, each individual is treated separately and the process is viewed as unidirectional--such as the child's effect on the parent. The reciprocal nature of human interactions is usually ignored and attention is on direct effects or the effects of A on B (Bronfenbrenner, 1974; Patterson, 1974). Researchers using an observational approach have the opportunity to look at second-order effects. How is the mother-child interaction affected by the presence of the father or others? Behavior is rarely learned and practiced in two-party systems but usually in complex settings such as in the family and in important reference groups.

At the methodological level, few changes were noted in the last 16 years. There has been a slight increase in the use of narratives and a slight decrease in the use of rating scales. In addition, little or no improvement in reporting, establishing and maintaining reliability is evident in the literature. Reliability problems associated with the human instrument were frequently discussed in earlier reviews (e.g. Thomas, 1929) and have been continuously noted since. Yet, the advancements made and chidings provided seemingly have had little influence. In this respect older reviews are surprisingly current.

The mode preferred by many for examining child behavior is an experimental theory-based laboratory approach. Yet, in spite of its limited usage, naturalistic child study does add a richness of behavioral detail which far exceeds the bounds of laboratory based experiments. The findings derived from the

observation of behavior in natural settings have an enduring descriptive quality which makes them continually heuristic and potentially more powerful in the development of knowledge. This is perhaps because naturalistic observational studies have been less explicitly tied to theory than have laboratory experiments. History shows that the large "paradigms" or theoretical perspectives of psychology accrued in one generation are typically disenfranchised with the next (Kuhn, 1962, Koch, 1974) Experimentally contrived data which gain their meaning only from their particular theoretical perspective become the curious artifacts of the history of the science. Data gathered through direct observation in the naturally occuring environments remain the historic records of human behavior.

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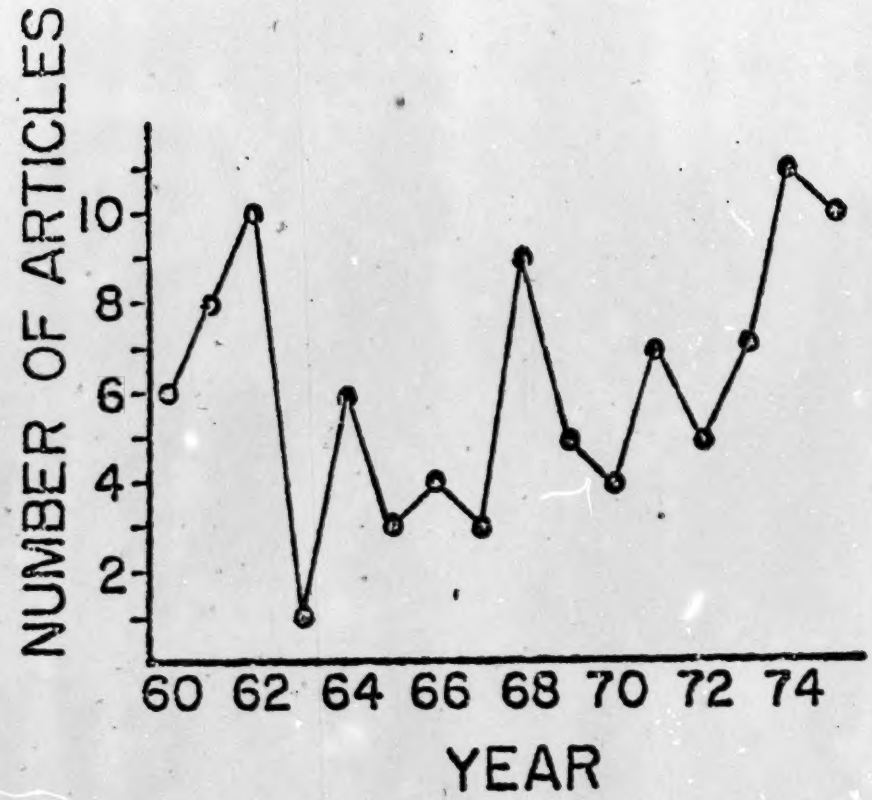
NUMBER OF ARTICLES BY YEAR

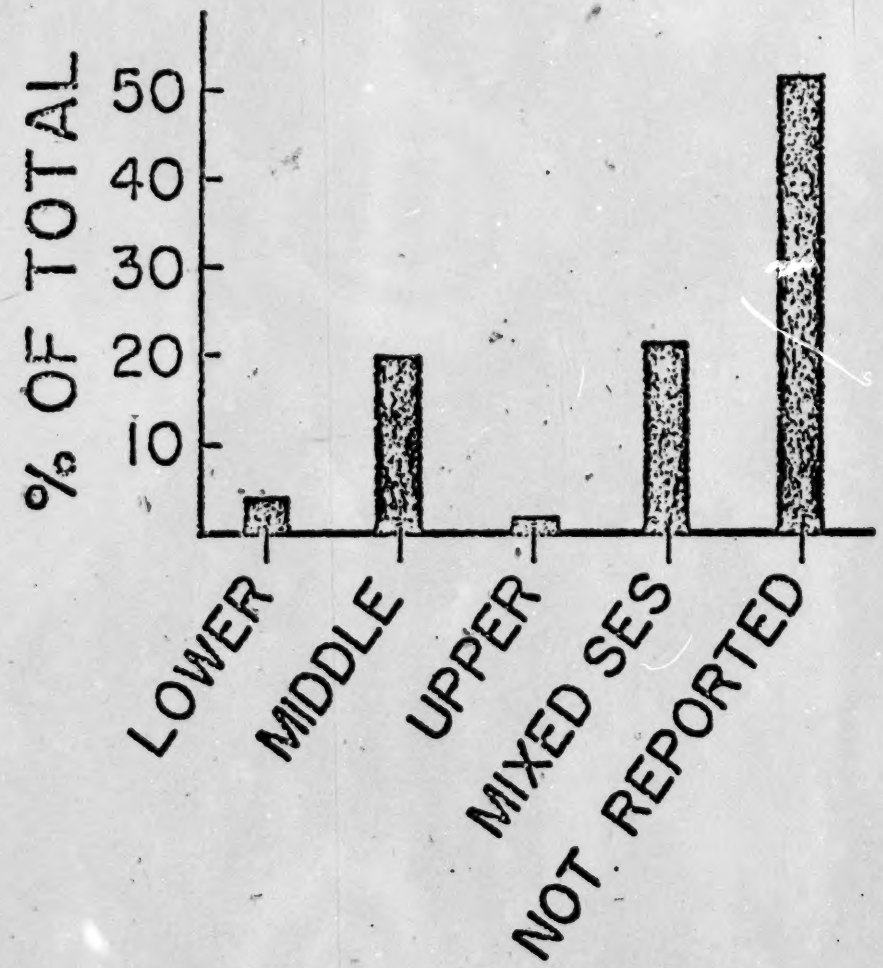


Slide 1

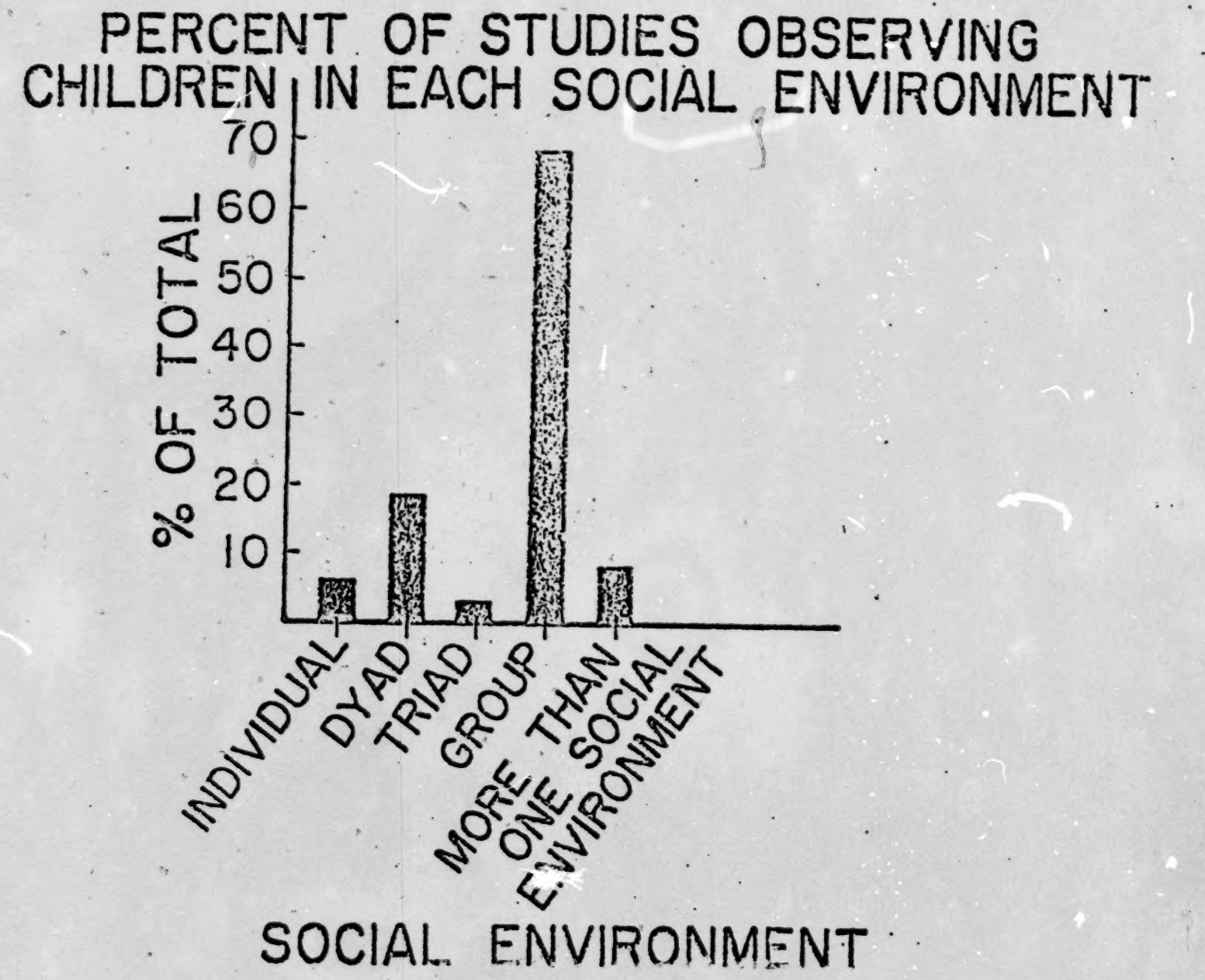
PERCENT BY AGE OBSERVED OF NATURALISTIC STUDIES

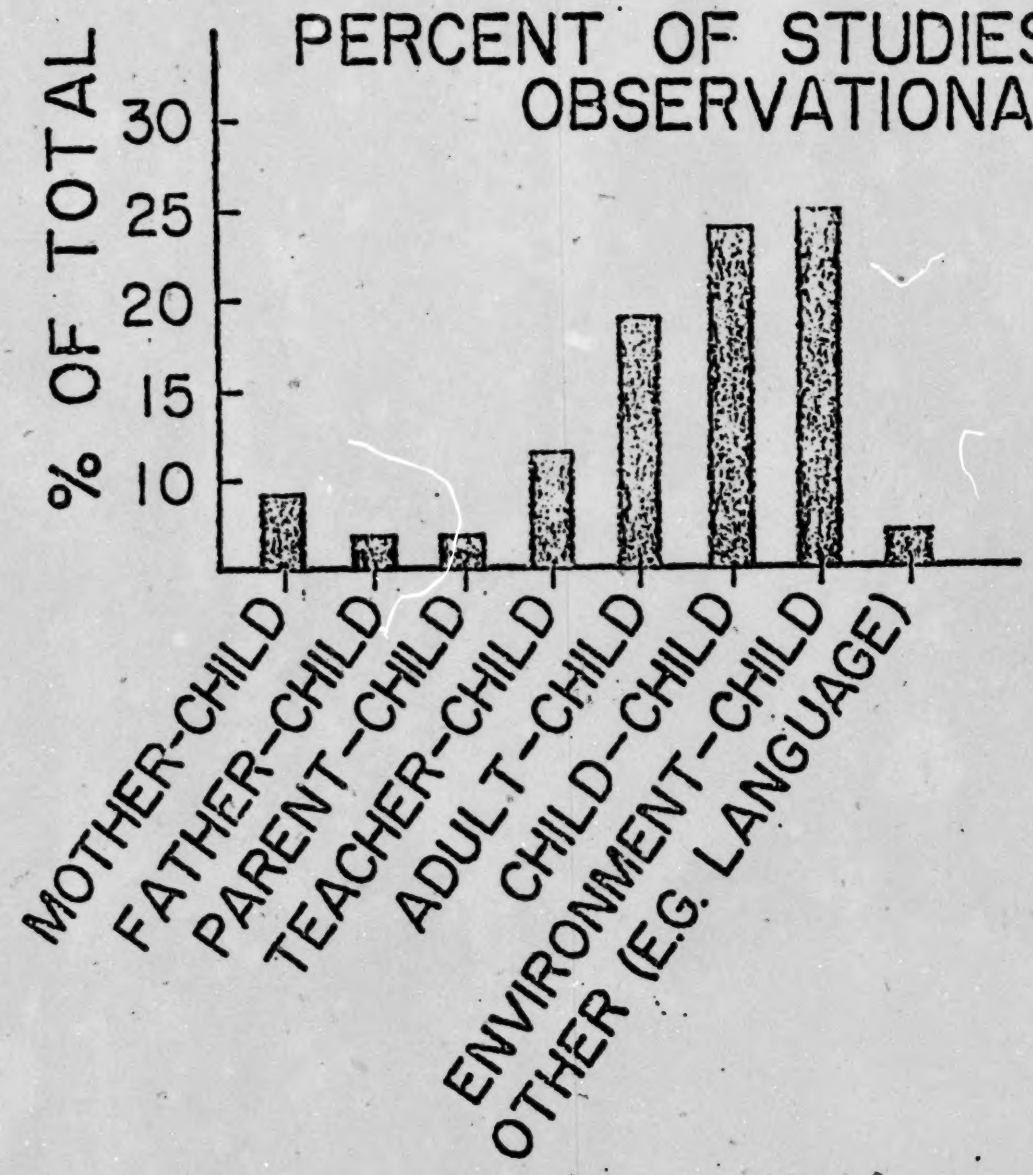
Slide 2

PERCENT OF STUDIES USING SUBJECTS FROM EACH SOCIOECONOMIC CLASS



PERCENT OF STUDIES IN EACH OBSERVATIONAL SETTING
% OF TOTAL
40
35
30
25
20
15
10
5
HOME
DAYCARE CENTER
NURSERY SCHOOL
EXPERIMENTAL LAB SCHOOL
HEADSTART
LABORATORY
PUBLIC SCHOOL
RESIDENTIAL INSTITUTION
CLINIC
OTHER
MORE THAN ONE SETTING


PERCENT OF STUDIES OBSERVING CHILDREN IN EACH SOCIAL ENVIRONMENT
% OF TOTAL
70
60
50
40
30
20
10
INDIVIDUAL
DYAD
TRIAD
GROUP
MORE THAN ONE SOCIAL ENVIRONMENT
SOCIAL ENVIRONMENT


PERCENT OF STUDIES FOR EACH OBSERVATIONAL FOCUS
% OF TOTAL
30
25
20
15
10
MOTHER-CHILD
FATHER-CHILD
PARENT-CHILD
TEACHER-CHILD
ADULT-CHILD
CHILD-CHILD
ENVIRONMENT-CHILD
OTHER (E.G. LANGUAGE)

Slide 6

	1960-63		1964-67		1968-71		1972-75	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Mother	3	8	4	10	6	8	9	9
Father	0	0	0	0	4	5	6	6
Parent-child	2	6	2	5	1	1	3	3
Teacher-child	4	11	3	7	11	14	13	43
Other Adult-child	10	28	9	21	14	18	13	43
Child-child	7	19	10	24	8	23	28	28
Environment-child	7	19	10	24	22	28	24	24
Other	3	8	4	10	2	03	3	3
Total	36		42		78		99	

Figure 1 Frequency and percent of each observational focus in four time periods

	1960-63	1964-67	1968-71	1972-75
Peer Interaction	10	33	21	33
Aggression	10	5	7	7
Achievement	9	7	0	4
Methodology	6	7	8	3
Sex-typing	5	1	8	13
Physical and Behavior Disorder	5	4	18	6
Attachment and Dependency	4	25	9	11
Moral Development	2	4	3	2
Socioeconomic Class	2	3	3	7
Language	0	0	9	11
Intellectual Development	0	0	1	3
Creativity	0	0	1	1

Figure 2 Rank order of percentages of content variables for four time periods.